



Missouri Department of Natural Resources

## Total Maximum Daily Load Information Sheet

### Pleasant Hill Lake

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#### Waterbody Segment at a Glance:

**County:** Cass  
**Nearby Cities:** Pleasant Hill, Greenwood,  
Lee's Summit  
**Area of impairment:** 115 acres  
**Pollutant:** Chlordane  
**Source:** Unknown\*

**\*The 1998 303 (d) list gave "Urban nonpoint runoff" as the pollutant source in this rural area. This is an error that will be corrected on the 2002 303(d) list.**

**TMDL Priority Ranking:** Low



State map showing location of watershed

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#### Description of the Problem

##### Beneficial uses of Pleasant Hill Lake

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life and Human Health associated with Fish Consumption
- Boating and Canoeing
- Drinking Water Supply

##### Use that is impaired

- Protection of Warm Water Aquatic Life and Human Health associated with Fish Consumption

##### Standards that apply

The current standard for chlordane in fish tissue, established by the U.S. Food and Drug Administration (FDA), is 0.3 milligrams per kilogram (mg/kg). Note: 1 kilogram = 2.2 pounds.

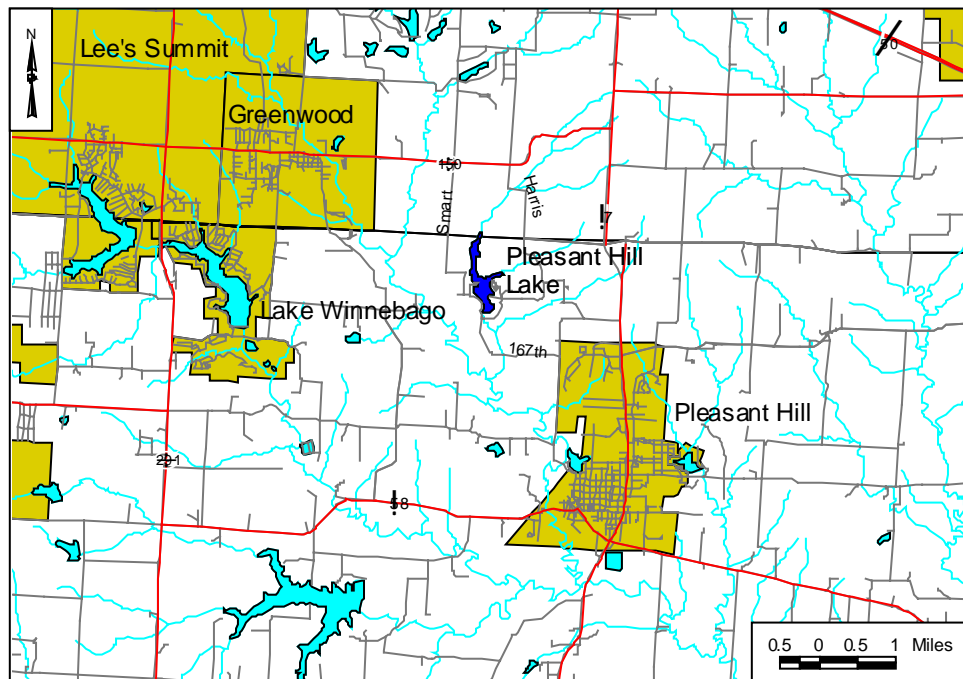
Pleasant Hill Lake is a small, rural lake that was impounded in 1948 for use as a drinking water supply for the town of Pleasant Hill. Although it is still listed with drinking water as a beneficial use, it has not been used that way since 1974, when Pleasant Hill signed a contract to get its water from Lee's Summit.

Chlordane is a pesticide that was commonly used in the past for termite control. It was also used at plant nurseries, golf courses and in agriculture. Chlordane was banned from agricultural uses in 1975 and all other uses in 1988, but it degrades very slowly in the environment and bio-accumulates in fish tissue, particularly bottom-feeding fish. This is because chlordane is not soluble in water, but binds to the soil. The highest levels found in Pleasant Hill Lake occur in carp. Human exposure to chlordane has been associated with liver cancer and nervous system disorders. In the years since

chlordane has been banned, chlordane levels in fish tissue from fish in Pleasant Hill Lake have declined. Since chlordane is banned and degrades slowly, there is little (besides dredging, which brings up disposal problems) that can be done to improve the situation other than let nature take its course.

In 1985, the Missouri Department of Conservation issued a fish consumption advisory for bottom-feeding fish in Pleasant Lake. This was discontinued July 9, 2001, because chlordane levels in these fish have fallen below the FDA action level of 0.3 mg/kg. The TMDL recommends continued monitoring of chlordane levels in fish in Pleasant Hill Lake. The U.S. Environmental Protection Agency approved this TMDL November 19, 2001. Data and a map of the area are found below.

### Map of Pleasant Hill Lake, Cass County



### Chlordane Concentration in Fish Tissues in Pleasant Hill Lake (mg/kg)

Year	Carp	Channel Catfish	Largemouth Bass
1989	1.51	0.255	
1998	0.17		0.015
2000	0.11		0.015

Sources: Missouri Dept of Conservation, Missouri Department of Natural Resources, U.S. Environmental Protection Agency

### For more information call or write:

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